

Description

Mounting DEVICE FOR laminaTED FUSES

BACKGROUND OF INVENTION

[0001] 1.Field of the Invention

[0002] The present invention is directed to an improved for mounting a laminated fuse to its respective support, suitable for use with the known screw-down fuse mounting method.

[0003] The object of the invention is to eliminate the risk of breakage and distortion for the laminated fuse during the tightening of the respective screw-down nuts.

[0004] The invention is particularly suitable for use in the automobile industry, specifically in the fuse-holding supports that make up the general safety group of the electrical circuitry of a vehicle.

[0005] 2.Description of the Related Art

[0006] In the preferred field of application for the invention, that of vehicles, fuses are widely used in which the fuses have opposing flat ends equipped with bores through which

screws or threaded rods integrated into the complementary support are passed, fixedly connecting the fuse by means of a pair of threaded nuts to the aforementioned screws or threaded rods.

[0007] During the nut tightening operation, necessary to ensure both the mechanical stability and electrical continuity of the fuse, these nuts rub against the fuse flat ends which they come in contact with. This contact by the nuts with the fuse flat ends during the tightening operation causing the flat ends of the fuse on many occasions to be distorted or broken.

[0008] In attempting to avoid this problem the use of round washers is known. The round washer takes the rotational friction stress caused by the turning movement of the nut during the tightening operation. This solution works when the mounting and seating of the nuts is carried out manually. However, it does not solve the previously mentioned problem when the nut tightening operation in automated processes, as the knock of the machine nut tightening operation instantly transmits the rotational strain to the fuse, causing frequent breaking or distortion of the fuse.

[0009] DISCLOSURE OF THE INVENTION

[0010] The present invention solves the previously explained

problem, ensuring proper mounting of laminated fuses substantially without breakage or distortion.

[0011] More specifically, said device is based on the use of a flat washer that is square in shape and is held in substantially stationary position by the design of the fuse support.

[0012] More particularly in the support housing for each fuse washer positioning stops are provided to fix the flat square washer in an angular direction, within in its own plane, so that the rotational strain generated by the machine tightening operation are transmitted from the washer to the support, through the aforementioned stops, without being transmitted to the ends of the fuse, which is thereby protected from distortion and/or breakage.

[0013] The aforementioned washer could be rectangular instead of square, but the square configuration is presently preferred in order to avoid the need for selecting a specific positioning of the washer on the support.

[0014] In fact any washer shape having suitable dimensions may be used with the establishment of appropriate stop supports, to prevent the rotating movement of the washer, and obviously without the layout of said stops interfering with the assembly of the fuse on said support.

BRIEF DESCRIPTION OF DRAWINGS

[0015] Figure 1 shows an exploded section in perspective of a laminated fuse and its respective support, equipped with a fixing device of the present invention.

[0016] Figure 2 shows, a section in perspective, having the same group of components as in Figure 1, fully assembled.

DETAILED DESCRIPTION

[0017] Reference will now be made to the drawings, wherein to the extent possible like reference numerals are utilized to designate like components throughout the various views.

[0018] In the figures there is shown a section of support (1) suitable to receive a plurality of laminated fuses (2), the specific configuration of laminated fuses (2) shown being merely for illustration purposes, as suitable fuse configurations can include any of the known different types of laminated fuses (2) available in the market. Fuses (2) having as a common denominator a pair of opposing flat ends (3) said flat ends (3) each having a bore (4) for the mounting of said fuse (2) on screws or threaded rods (5) emerging from each of a plurality of housing (6) formed in the support (1) for the mounting of fuse (2), said fuse fixedly mounted to the support (1) by the nuts (7).

[0019] In accordance with the invention, between each flat end (3) of fuse (2) and the respective nut (7) a flat washer (8)

having a square shape, designed to fit into support (1) between a number of stops (9) positioned in support (1), said stops (9) acting on the edges of flat square washer (8) thereby substantially preventing rotation within its horizontal plane during the tightening of the nuts (7).

[0020] In this manner substantially all the rotational strain generated by the nuts (7) during the tightening process is absorbed by the flat square washers (8) and transmitted through these to the support (1), without the transmission of rotational strain to the ends (3) of the fuse (2) thereby substantially eliminating the risk of breakage or deformation to said fuse (2).